

De Anza College Office of Institutional Research and Planning

Date: 9/25/2025

To: Math Department

From: Mallory Newell, Office of Institutional Research and Planning

Subject: Addendum to *STEM Calculus Pathway Completion & New Analyses from Fall 22 to Summer 2025*

Introduction

This addendum serves as a follow up report to a prior [report](#).

This addendum provides STEM Calculus completions rates for the following:

- Adding a first look at students in MPS sections compared to students in non-MPS, both offered as face-to-face sections.
- Adding a first look at students who were placed via Guided Self Placement compared to those placed via high school transcripts into MATH1A.

In addition to the items added to the prior report the following was requested:

- Rerun the analysis and add an additional cohort as time has passed starting in fall 2022 and completing by summer 2025 (four cohorts total).
- (Forthcoming) Explore students who successfully completed MATH1A but did not go on to complete MATH1B (i.e., did they change majors, dropped out of De Anza, take longer than two years to complete, etc.).

Addendum: MATH1A and MATH1B Completion for MPS and Non-MPS Students for Face-to-Face Instruction

This section compares students in a face-to-face MPS section by starting level to students in a non-MPS face-to-face section by starting level. Overall, there were no consistent differences in completion of MATH1A or MATH1B by starting course whether a student enrolled in face-to-face section of MPS or non-MPS course as their first course of enrollment.

Table 1. Completion of MATH1A by First Course Enrollment, by MPS Sections, Face-to-Face

First Course Enrolled	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	49	11	22%	68	12	18%	49	15	31%	68	16	24%
MATH32	9	9	100%	15	12	80%	9	9	100%	15	12	80%
MATH1A	8	7	88%	20	18	90%	8	7	88%	20	18	90%

Note: First course enrollment was an MPS section. Cohorts with sample sizes below 10 are not discussed in the narrative.

Table 2. Completion of MATH1A by First Course Enrollment, by Non-MPS Sections, Face-to-Face

First Course Enrolled	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	111	28	25%	139	21	15%	111	46	41%	139	36	26%
MATH32	61	31	51%	76	53	70%	61	39	64%	76	58	76%
MATH1A	138	118	86%	139	122	88%	138	122	88%	139	124	89%

Note: First course enrollment was a non-MPS section. Cohorts with sample sizes below 10 are not discussed in the narrative.

- For cohort groups with over 10 students, STEM majors starting in MATH31.MPS had a 22% completion rate of MATH1A in one year which increased to 31% in two years compared to 18% for All Other Majors in one year and 24% in two years. Comparing to students who were not in an MPS face-to-face section, their one-year completion rate was slightly higher at 25% and 41% for STEM majors in one and two years.
- All Other Majors starting in a MPS section of MATH32 had an 80% completion rate in one and two years while STEM majors in non-MPS face-to-face sections had a one-year completion rate of 51% and 64% in two years.
- Non-STEM students starting in MATH1A.MPS had a 90% completion rate of MATH1A in one and two years compared to 86% and 88% for STEM majors in non-MPS face-to-face sections.

Table 3. Completion of MATH1B by First Course Enrollment, MPS Sections, Face-to-Face

First Course Enrolled	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	49	4	8%	68	4	6%	49	10	20%	68	10	15%
MATH32	9	6	67%	15	6	40%	9	8	89%	15	9	60%
MATH1A	8	5	63%	20	11	55%	8	5	63%	20	12	60%

Note: First course enrollment was an MPS section. Cohorts with sample sizes below 10 are not discussed in the narrative.

Table 4. Completion of MATH1B by First Course Enrollment, Non-MPS Sections, Face-to-Face

First Course Enrolled	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	111	8	7%	139	3	2%	111	33	30%	139	17	12%
MATH32	61	22	36%	76	42	55%	61	35	57%	76	51	67%
MATH1A	138	92	67%	139	74	53%	138	99	72%	139	89	64%

Note: First course enrollment was a non-MPS section. Cohorts with sample sizes below 10 are not discussed in the narrative.

- STEM majors starting in MATH31.MPS had an 8% completion rate of MATH1B in one year which increased to 20% in two years compared to 6% for All Other Majors in one year and 15% in two years compared to non-MPS STEM majors in face-to-face sections at 7% and 30%, respectively.
- All Other Majors starting in MATH1A.MPS had an 55% completion rate of MATH1B in one year which increased to 60% in two years compared to 53% for All Other Majors in one year and 64% in two years.

Addendum: MATH1A and MATH1B Completion for Students Placed by Guided Self-Placement into MATH1A

This section compares students who began in MATH1A and were either placed there through the Guided Self-Placement process or by another placement process (high school GPA, course clearance, challenge process). Students who self-placed via GSP had consistently higher completion of MATH1A and MATH1B than students who were placed by other methods, this is consistent across both STEM and Non-STEM majors.

Table 5. Completion of MATH1A for Students Starting in MATH1A, by Guided Self-Placement

MATH1A First Course	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
GSP	117	109	93%	201	188	94%	117	110	94%	201	191	95%
Other	343	299	87%	444	371	84%	343	306	89%	444	376	85%

Table 6. Completion of MATH1B for Students Starting in MATH1A, by Guided Self-Placement

MATH1A First Course	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
GSP	117	87	74%	201	121	60%	117	93	79%	201	135	67%
Other	343	189	55%	444	153	34%	343	220	64%	444	189	43%

- STEM majors starting in MATH1A had a 93% completion rate of MATH1A in one year compared to 87% for students placed by other measures. Two-year completion rates for STEM majors placed via GSP were 94% compared to 89% for STEM majors placed by other measures.
- All Other Majors starting in MATH1A had an 94% completion rate of MATH1A in one year compared to 84% for students placed by other measures. Two-year completion rates for All Other Majors placed via GSP were 95% compared to 85% for All Other Majors placed by other measures.
- STEM majors starting in MATH1A had a 74% completion rate of MATH1B in one year compared to 55% for students placed by other measures. Two-year completion rates for STEM majors placed via GSP were 79% compared to 64% for STEM majors placed by other measures.
- All Other Majors starting in MATH1A had a 60% completion rate of MATH1B in one year compared to 34% for students placed by other measures. Two-year completion rates for All Other Majors placed via GSP were 67% compared to 43% for All Other Majors placed by other measures.

New: MATH1A and MATH1B Completion Through Summer 2025

This section provides one- and two-year completion rates of MATH1A and MATH1B by first course enrolled, disaggregated by STEM majors and All Other Majors. The counts combine **four cohorts**: Cohort 1: Fall 2022 – Summer 2024; Cohort 2: Winter 2023 – Fall 2024; Cohort 3: Spring 2023 – Winter 2025; Cohort 4: Fall 2023 – Summer 2025.

Table 7. Completion of MATH1A by First Course Enrollment, All Sections.

First Course Enrolled	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	487	140	29%	838	126	15%	487	214	44%	838	208	25%
MATH32	146	93	64%	255	156	61%	146	104	71%	255	170	67%
MATH1A	761	664	87%	1,001	850	85%	761	678	89%	1,001	866	87%

- STEM majors starting in MATH31 had one year completion rate of MATH1A at 29%, which improved to 44% in two years. All Other Majors starting in MATH31 had one year completion rates of MATH1A at 15%, which improved to 25% in two years.
- STEM majors starting in MATH32 had one year completion rate of MATH1A at 64% which improved to 71% in two years. All Other Majors starting in MATH32 had one year completion rate of MATH1A at 61% which improved to 67% in two years.
- STEM majors starting in MATH1A had one year completion rate of MATH1A at 87% which improved to 89% in two years. All Other Majors starting in MATH1A had one year completion rate of MATH1A at 85% which improved to 87% in two years.

Table 8. Completion of MATH1B by First Course Enrollment, All Sections

First Course Enrolled	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	487	42	9%	838	30	4%	487	153	31%	838	129	15%
MATH32	146	65	45%	255	112	44%	146	92	63%	255	143	56%
MATH1A	761	456	60%	1,001	442	44%	761	519	68%	1,001	527	53%

- STEM majors starting in MATH31 had one year completion rate of MATH1B at 9% which improved to 31% in two years. All Other Majors starting in MATH31 had one year completion rate of MATH1B at 4% which improved to 15% in two years.
- STEM majors starting in MATH32 had one year completion rate of MATH1B at 45% which improved to 63% in two years. All Other Majors starting in MATH32 had one year completion rate of MATH1B at 44% which improved to 56% in two years.
- STEM majors starting in MATH1A had one year completion rate of MATH1B at 60% which improved to 68% in two years. All Other Majors starting in MATH1A had one year completion rate of MATH1B at 44% which improved to 53% in two years.

Table 9. Completion of MATH1A by First Course Enrollment, by MPS Sections

First Course Enrolled	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	70	15	21%	93	18	19%	70	22	31%	93	24	26%
MATH32	9	9	100%	15	12	80%	9	9	100%	15	12	80%
MATH1A	34	27	79%	37	33	89%	34	28	82%	37	34	92%

- STEM majors starting in MATH31.MPS had one year completion rate of MATH1A at 21% which improved to 31% in two years. All Other Majors starting in MATH31.MPS had one year completion rate of MATH1A at 19%, which improved to 26% in two years.
- STEM majors starting in MATH32.MPS had one year completion rate of MATH1A at 100%. All Other Majors starting in MATH32.MPS had one year completion rate of MATH1A at 80%.
- STEM majors starting in MATH1A.MPS had one year completion rate of MATH1A at 79% which improved to 82% in two years. All Other Majors starting in MATH1A.MPS had one year completion rate of MATH1A at 89% which improved to 92% in two years.

Table 10. Completion of MATH1B by First Course Enrollment, MPS Sections

First Course Enrolled	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	70	6	9%	93	6	6%	70	17	24%	93	18	19%
MATH32	9	6	67%	15	6	40%	9	8	89%	15	9	60%
MATH1A	34	19	56%	37	22	59%	34	24	71%	37	24	65%

- STEM majors starting in MATH31.MPS had one year completion rate of MATH1B at 9%, which improved to 24% in two years. All Other Majors starting in MATH31.MPS had one year completion rates of MATH1B at 6% which improved to 19% in two years.

- STEM majors starting in MATH32.MPS had one year completion rate of MATH1B at 67%, which improved to 89% in two years. All Other Majors starting in MATH32.MPS had one year completion rate of MATH1B at 40% which improved to 60% in two years.
- STEM majors starting in MATH1A.MPS had one year completion rate of MATH1B at 56%, which improved to 71% in two years. All Other Majors starting in MATH1A.MPS had one year completion rates of MATH1B at 59%, which improved to 65% in two years.

Table 11. Completion of MATH1A by First Course Enrollment, by Corequisite Sections

First Course Enrolled	One-Year Completion of MATH1A						Two-Year Completion of MATH1A					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	79	17	22%	106	15	14%	79	34	43%	106	26	25%
MATH32	18	7	39%	14	8	57%	18	10	56%	14	8	57%
MATH1A												

- STEM majors starting in MATH31.Q had one year completion rate of MATH1A at 22%, which improved to 43% in two years. All Other Majors starting in MATH31.Q had one year completion rate of MATH1A at 14% which improved to 25% in two years.
- STEM majors starting in MATH32.Q had one year completion rate of MATH1A at 39% and improved to 56% in two years. All Other Majors starting in MATH32.Q had one year completion rate of MATH1A at 57%.

Table 12. Completion of MATH1B by First Course Enrollment, Corequisite Sections

First Course Enrolled	One-Year Completion of MATH1B						Two-Year Completion of MATH1B					
	STEM Major			All Other Majors			STEM Major			All Other Majors		
	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate	Cohort	Completion	Rate
MATH31	79	4	5%	106	2	2%	79	23	29%	106	13	12%
MATH32	18	6	33%	14	6	43%	18	8	44%	14	7	50%
MATH1A												

- STEM majors starting in MATH31.Q had one year completion rate of MATH1B at 5%, which improved to 29% in two years. All Other Majors starting in MATH31.Q had one year completion rate of MATH1B at 2%, which improved to 12% in two years.
- STEM majors starting in MATH32.Q had one year completion rate of MATH1B at 33% and improved to 44% in two years. All Other Majors starting in MATH32.Q had one year completion rate of MATH1B at 43% which improved to 44% in two years.

Methodology

Cohort

Students were included based on their first math course enrolled at De Anza: MATH31, MATH32, or MATH1A/1AH from fall 2022 through fall 2023 and were tracked for two full years to summer 2025. Only a student whose first course of enrollment was either MATH31, MATH32 or MATH1A were included in each cohort. Successful completion includes A, B, C and P grades and corresponding +/- grades. Concurrently enrolled high school students were omitted from the analysis as AB 1705 does not apply to high school students.

MPS sections include those with a section number including MP or MPS. Corequisite sections include those with a section numbering including Q.

Completion

Completion is defined as the number of students who started in MATH31, MATH32 or MATH1A and successfully completed MATH1A and/or MATH1B within one or two years. While C-ID articulates MATH1A and MATH1B together, and Associate Degrees for Transfer require both MATH1A and MATH1B when Calculus 1 is required, the analysis disaggregates completion of MATH1A and MATH1B separately. MATH1A is a prerequisite for enrollment in MATH1B.

Timeframe for Addendum

Cohort 1: Fall 2022 – Summer 2024

Cohort 2: Winter 2023 – Fall 2024

Cohort 3: Spring 2023 – Winter 2025

Timeframe for New Analysis

Cohort 1: Fall 2022 – Summer 2024

Cohort 2: Winter 2023 – Fall 2024

Cohort 3: Spring 2023 – Winter 2025

Cohort 4: Fall 2023 – Summer 2025

All students were tracked to successful completion of MATH1A and/or MATH1B within one or two years.

Placement

Students are able to access STEM Calculus 1 in various ways, through high school transcripts, guided self-placement, transfer credits and a prerequisite challenge process. Any student has the option to self-place into any course, including Calculus 1A using the guided self-placement process, regardless of their high school preparation. All students with high school transcript data are given a placement based on the current (winter 2024) [criteria](#):

- Calculus 1A: Any high school GPA, completed high school precalculus with a C or higher
- MATH32: Any high school GPA, enrolled in but did not pass high school precalculus
- MATH31: High school GPA 2.6 or above and never enrolled in high school precalculus
- MATH31.MPS: High school GPA less than 2.6 and never enrolled in high school precalculus

Major

Disaggregation by STEM major and All Other majors is provided. Major is based on a student's major upon first enrollment in a math course. STEM majors are grouped by those that require successful completion of both MATH1A and MATH1B include:

Chemistry (Assist.org; C-ID MATH210)

Computer Science for Transfer (ADT; C-ID MATH210)

Engineering (Assist.org)

Geology (Assist.org; C-ID MATH210)

Mathematics for Transfer (ADT; C-ID MATH210)

Physics (Assist.org; C-ID MATH210)

Physics for Transfer (Assist.org; C-ID MATH210)

Biology for Transfer (ADT; C-ID MATH210)

'All Other Majors' most often include: Business Administration Degree and Transfer Degree, Biology Degree, Economics Transfer Degree, Transfer Studies Degree, Psychology Degree for Transfer, Liberal Arts – Science, Math Engineering Degree. Majors within this category do not require MATH1A or MATH1B or offer an alternative such as MATH12.